

WHAT IS CLAIMED IS:

1. A method used in equalization processing, comprising the steps of:

- 5 extracting information on fluctuation of transmission line characteristics which fluctuate periodically on the basis of a receive signal; and
performing equalization processing while
10 switching equalization characteristics in accordance with said fluctuation of transmission line characteristics.

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2. The method as claimed in claim 1, said step of extracting said information comprising the steps of:

- receiving a reference signal which is sent
20 from a send side; and

detecting a change point of said transmission line characteristics by using fluctuation of phase or amplitude of said reference signal.

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3. The method as claimed in claim 2, said
30 method further comprising the steps of:

extracting a basic frequency signal of fluctuation period of said transmission line characteristics;

- vectorizing said basic frequency signal
35 into a vector;

adjusting phases of change point vectors corresponding to two change points such that said

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phases become symmetrical with respect to a reference phase;

comparing a component of said vector of said basic frequency signal with a reference value;

5 and

outputting a switching signal for switching said equalization characteristics according to a result of said step of comparing.

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4. The method as claimed in claim 3, said method further comprising the steps of:

15 performing equalization processing for each interval of said fluctuation of transmission line characteristics on each corresponding receive signal;

20 comparing errors of said each corresponding receive signal on which said equalization processing has been performed; and

updating said reference value on the basis of a result of said step of comparing errors.

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5. An equalization processing apparatus comprising:

30 a part extracting information on fluctuation of transmission line characteristics which fluctuate periodically on the basis of a receive signal; and

35 a part performing equalization processing while switching equalization characteristics in accordance with said fluctuation of transmission line characteristics.

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5 6. The equalization processing apparatus
as claimed in claim 5, said part extracting said
information comprising:

 a part receiving a reference signal which
is sent from a send side; and

10 a part detecting a change point of said
transmission line characteristics by using
fluctuation of phase or amplitude of said reference
signal.

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 7. The equalization processing apparatus
as claimed in claim 6, further comprising:

20 a part extracting a basic frequency signal
of fluctuation period of said transmission line
characteristics;

 a part vectorizing said basic frequency
signal into a vector;

25 a part adjusting phases of change point
vectors corresponding to two change points such that
said phases become symmetrical with respect to a
reference phase;

30 a part comparing a component of said
vector of said basic frequency signal with a
reference value; and

 a part outputting a switching signal used
for switching said equalization characteristics
according to a result of comparing said component
35 with said reference value.

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8. The equalization processing apparatus as claimed in claim 7, further comprising:

5 a part performing equalization processing for each interval of said fluctuation of transmission line characteristics on each corresponding receive signal;

10 a part comparing errors of said each corresponding receive signal on which said equalization processing has been performed; and

a part updating said reference value on the basis of a result of comparing said errors.

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9. The equalization processing apparatus as claimed in claim 5, further comprising:

20 a plurality of equalization processing parts each corresponding different transmission line characteristics; and

a part switching said equalization processing parts in accordance with fluctuation of
25 said transmission line characteristics.

30 10. The equalization processing apparatus as claimed in claim 5, further comprising:

a part holding equalization processing parameters for different transmission line characteristics; and

35 a part setting said equalization processing parameters corresponding to specific transmission line characteristics in accordance with

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said fluctuation of said transmission line characteristics.

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